

## ABSTRACT

- Polymeric materials having sub-micron sized or nano-sized topological features or textures are described herein. These features have dimensions in various ranges including, but not limited to dimensions less than about 1 micrometer. In
- 5 addition, polymeric materials are described herein that have a surface roughness of about 50 nm or greater. These polymeric materials are useful for making implants for soft tissues, such as bladder tissue replacement implants. Methods of treatment using such implants are also described. In such methods, polymers that are biocompatible, and biodegradable are also described.
- 10 Processes for making polymeric materials having sub-micron sized or nano-sized topological features or textures are also described herein. Sub-micron sized or nano-sized surface features may be formed by chemical treatment processes, using acidic, basic, oxidizing, and reducing reagents. Sub-micron sized or nano-sized surface features may also be formed using molding processes, or a combination of
- 15 molding and chemical treatment processes.